CLAIMS

1. Signal to be transmitted to several receivers, of the type including at least two source signals and composed of several substantially orthogonal carrier signals modulated independently and distributed on a determined frequency band,

characterized in that said frequency band (12) is organized into at least two frequency subbands (13_1 to 13_4) each comprising a set of said substantially orthogonal carrier frequencies (11),

and characterized in that one of said source signals (S_i) is assigned to each of said subbands, so that a receiver can extract at least one of said subbands from the transmitted signal by filtering, and can carry out demodulation processing solely on the carrier frequencies contained in the extracted subbands.

2. Signal according to claim 1, characterized in that said subbands (13_1 to 13_4) are adjacent.

3. Signal according to any one of claims 1 and 2, characterized in that said subbands (13_1 to 13_4) have identical bandwidths.

4. Signal according to any one of claims 1 to 3, characterized in that said source signals (Si) are assigned to said subbands (13_1 to 13_4) in a manner that varies with time, in order to maximize the frequency diversity.

5. Signal according to claim 4, characterized in that said assignment is modified on each transmission of a frame of said signal.

6. Signal according to any one of claims 1 to 5, characterized in that at least a first of said source signals (S_i) corresponds to basic information for a program and at least a second of said source signals (S_i) corresponds to information complementary to said basic information, in order to define at least two receiver quality levels:

- a first quality level applicable to receivers capable of processing only the subband corresponding to said first source signal; and
- a second quality level corresponding to receivers capable of processing subbands corresponding to the first and second source signals.

7. Method for the transmission of a signal according to any one of claims 1 to

6, characterized in that it comprises the following steps:

- assignment of a determined frequency band (12) to said signal, in which several approximately orthogonal carrier frequencies (11) are defined;
- breakdown of said frequency band (12) into at least two frequency subbands (13_1 to 13_4), each comprising a set of said approximately orthogonal carrier frequencies;
- reception of at least two source signals (S_i) to be transmitted;
- assignment of one of said frequency subbands to each of said source signals;
- grouping of said subbands, so as to form said signal to be transmitted; and
- transmission of said signal to be transmitted.

8. Method according to claim 7, characterized in that said subbands (13_1 to 13_4) are adjacent.

9. Method according to any one of claims 7 and 8, characterized in that said subband grouping step is preceded by an independent coding step (22_i) and frequency and time interlacing (23_i) of each of said source signals, so as to obtain a set of coded signals designed to modulate each of said carrier frequencies of the subband assigned to said source signal.

10. Receiver of a signal ccording to any one of claims 1 to 9, characterized in that it comprises:

- means of selecting a given program, corresponding to at least one of said subbands (13_1 to 13_4); and
- mathematical transformation means (47; 58) acting on the carrier frequencies contained in the selected subband(s).

11. Receiver according to claim 10, characterized in that said selection means include analog transposition means including a first RF transposition oscillator (43) and a second IF transposition oscillator (44), and means of controlling the oscillation frequency of said first and/or said second oscillator as a function of the selected subbands, so that

they are centered on a predetermined frequency.

12. Receiver according to claim 10, characterized in that said selection means comprise first analog transposition means (51, 52) and second digital transposition means (54) that are variable as a function of the selected subband(s), and subsampling means (56).

13. Receiver according to any one of claims 10 to 12, characterized in that said mathematical transformation means (47; 58) act on a number of carrier frequencies slightly exceeding the number of carrier frequencies contained in the extracted subband(s), so as to compensate for the imperfection due to extraction filtering of said subbands.

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